Claims:

1. A process for the production of a polyurethane product by reaction of a mixture of

(a) at least one organic polyisocyanate with

(b) a polyol composition comprising

(b1) from 0 to 99 percent by weight of at least one polyol compound having a nominal starter functionality of 2 to 8 and a hydroxyl number from 20 to 800, and

(b2) from 1 to 100 percent by weight of at least one polyol wherein the polyol has tertiary amine end-capping having autocatalytic function and no carbonate, urethane or ester groups when the tertiary amine is a dialkylamino moiety,

(c) optionally in the presence of one or more polyurethane catalysts, with the proviso that no tin catalyst is used when the tertiary amine of polyol (b2) is a dialkylamino group in a position Beta to a terminal hydroxyl moiety,

(d) optionally in the presence of a blowing agent; and

(e) optionally additives or auxiliary agents known per se for the production of polyurethane foams, elastomers and/or coatings.

2. The process of Claim 1 wherein (b) is a polyol blend containing 5 to 99 percent by weight of (b1) and 1 to 95 percent by weight of (b2).

3. A process for the production of a flexible polyurethane foam by reaction of a mixture of

(a) at least one organic polyisocyanate with

(b) a polyol composition having an average functionality of 3 to 6 and an average hydroxyl number of 20 to 100 wherein the polyol comprises, based on the total amount of polyol component (b)

(b1) from 5 to 99 percent by weight of a polyol having a functionality of 2 to 8 and a hydroxyl number of 20 to 100 and

(b2) from 1 to 95 percent by weight of at least one polyol wherein the polyol has tertiary amine end-capping having autocatalytic function and no carbonate, urethane or ester groups when the tertiary amine is a dialkylamino moiety,

(c) in the presence of a blowing agent,

(d) optionally in the presence of one or more polyurethane catalysts, with the proviso that no tin catalyst is used when the tertiary amine of polyol (b2) is a dialkylamino group in a position Beta to a terminal hydroxyl moiety, and

(e) optionally additives or auxiliary agents known per se for the production of a flexible polyurethane foam.

4. The process of Claim 3 wherein the blowing agent is water in an amount from 0.5 to 10 parts by weight of component (b).

5. The process of Claim 4 wherein the blowing agent further comprises carbon dioxide added either as a gas or as a liquid.

6. The process of Claim 3 wherein a carboxylic or hydroxyl carboxylic acid is added to the reaction mixture.

7. The process of Claim 3 wherein polyol (b2) is a polyol having a functionality of 2 to 8 and a hydroxyl number of 20 to 100 which is end-capped by reaction with a monoalkyl amine, a dialkyl amine, a cyclic amine or a polyamine wherein the alkyl group is a C1 to C3 alkyl group and the cyclic amine is a cycloaliphatic or aromatic amine containing 4 to 10 atoms in the ring.

8. The process of Claim 7 wherein the polyol (b2) is formed by reaction of the polyol with dimethylamine, isopropylamine, 3-dimethylamino)-1-propylamine, imidazole, 2-methylimidazole, 1-(3-aminopropyl)-imidazole, 1-methyl piperazine or N,N-dimethyl aminopropylamine.

9. The process of Claim 8 wherein the polyol (b2) if formed by reaction of the polyol with dimethylamine, 2-methylimidazole or imidazole.

10. The process of Claim 7 wherein the polyol (b2) is formed by reaction of the polyol with an acrylate or methacrylate.

11. The process of Claim 7 wherein the polyol (b2) is formed by reaction of the polyol with an aminoalkyl halide.

12. The process of Claim 7 wherein the polyol (b2) is formed by reaction of the polyol with a glycicylamine.

13. The process of Claim 7 wherein the polyol is a polyol containing a primary amine group and (b2) is formed by methylating at least a portion of the primary amine groups.

14. The process of any one of claims 7 to 13 wherein the polyisocyanate is a toluene diisocyanate.

15. The process of any one of Claim 3 or 6 to 13 for the production of a foam containing an integral skin.

16. The process of any one of claims 3 to 14 wherein the polyisocyanate (a) contains at least one polyisocyanate that is a reaction product of an excess of polyisocyanate with polyol (b1), (b2) or a mixture thereof.

17. A polyol blend comprising

(i) from 5 to 99 percent by weight of at least one polyol compound having a nominal starter functionality of 2 to 8 and a hydroxyl number from 20 to 800, and

(ii) from 1 to 100 percent by weight of at least one polyol wherein the polyol has tertiary amine end-capping and contains no carbonate, urethane or ester groups when the tertiary amine is a dialkylamino moiety.